

REMARKS

Claims 60-64, 66-72 remain pending in the application and were examined in the most recent action. Claims 1-59 and 65 were previously canceled and claim 73 is canceled by this action.

Claim 73 is rejected in the action under 35 U.S.C. § 112, second paragraph. The applicant neither confirms nor denies the propriety of the rejection, but asserts that in view of the cancellation of claim 73 in this response, the rejection is rendered moot. Claim 73 is canceled without prejudice and in view of the amendments to claim 60.

Claim 60 is amended in this action to add clarity and to better point out that which the applicant claims as the invention. In particular, as amended, claim 60 requires a probe with a tube having an outer surface extending from a base of the probe to an end of the probe. The tube length is such that the tube may be inserted into a test subject's ear canal up to the probe base. Claim 1 also requires a probe tip to be fitted to the probe and in particular to the tube covering the outer surface. In this regard, claim 1 requires the probe tip to have a body portion bounded between a first and second end and to have a passage extending through a body portion. The passage when the probe tip is received over the tube contacts substantially all of the outer surface of the tube from the probe base to the probe end, thus ensuring the probe tip is acoustically sealed over the probe and that acoustic signals travel only within the tube.

Claim 61 is amended to provide agreement between claim 60, as amended. As claim 60 now recites the probe and in particular the probe tube, claim 61 is amended to recite the tube and in particular the shape of the outer surface, to which, as set forth in claim 60, the passage corresponds. Claim 72 is amended to correct antecedent basis. No new matter is added by these amendments.

Hearing testing utilizing otoacoustic emissions generates a test signal that is communicated into a test subject's ear canal and receives acoustic response signals from the test subject's ear canal. The response signals can be of low intensity and contain noise. To reduce testing time and to ensure accurate test results, it is important the probe be well calibrate, and moreover, that the probe extend into and seal to the ear canal. Any changes in

the configuration of the probe, such as adding a probe tip, can affect its calibration. An inability to insert the probe into the test subject's ear canal and seal the probe within the test subject's ear canal, can lead to additional noise in the received signals and test failure. The probe and probe tip as set forth in the claims overcome these problems. Moreover, as each and every limitation of the structure of the probe and probe tip is not taught, disclosed or suggested in the art, the pending claims are allowable, and such action is requested.

The action rejected claim 60-64 and 66-72 as being anticipated by Baum ('038); claims 60-64, 68, 71 and 72 as being anticipated by Pompei et al. ('239) and claim 60-64 and 70-73 as being unpatentable over Kerouac ('051) in view of Baum ('038). The applicant traverses the rejections and requests reconsideration at least in view of the foregoing amendment of claim 60 and following remarks.

As noted above, for otoacoustic emission testing the probe generally includes a tube that is inserted into and sealed within the test subject's ear canal. Acoustic test signals are emitted from an end of the tube into the ear canal and acoustic response signals are received at the end of the tube from the ear canal. Calibration of the probe cannot be affected by the addition of a probe tip, and sealing of the tube in the ear canal is important. Thus, a probe tip should not extend any substantial portion beyond the end of the tube, should not form a portion of the acoustic path (to preserve calibration) and should seal the probe tip to the tube and seal the probe tip to the ear canal. None of the cited references, taken alone or in combination, teach, disclose or suggest each and everyone one of the limitations set forth in the claims for a structure to accomplish these goals.

Baum fails to teach or suggest the claimed structure. Baum fails to teach, disclose or suggest a probe with a tube having a length sufficient to be inserted into an ear canal. Baum instead relies upon a short stub portion of an earphone onto which a tip is disposed. The tip is intended to be inserted into and seal the ear canal. It includes an acoustic path that couples acoustic signals from the probe into the subject's ear canal. Because Baum teaches earphones, and hence only contemplates the insertion of acoustic signals into a subject's ear canal, no consideration whatsoever is give to the need to receive signals from the ear canal or the role the tip may play as part of the probe's acoustic path. That the tip forms a portion of the acoustic path through which the acoustics signals are

communicated is inconsequential for Baum's application, because there are no calibration concerns with the Baum device which merely communicates acoustic signals into the subject's ear canal. Thus, the claims are allowable over Baum.

Pompei fails to teach or suggest the claimed structure. Pompei also fails to teach, disclose or suggest a probe having a tube for insertion within an ear canal of a subject. Even if, and the applicant contends this is not the case, the flexible end (20) is considered a probe tube, the flexible end 20, even though hollow, is entirely incapable of communicating acoustic signals. This is clear because the probe end (30) is not formed with an aperture (e.g., the claimed second opening) from which acoustic signals can be emitted. Furthermore, if the flexible end 20 is the probe tube, then Pompei fails to teach or suggest a probe tip. If the flexible end 20 is considered part of the probe tip, Pompei fails to teach or suggest a probe tube. In short, Pompei nowhere teaches, discloses or suggests acoustic signal communication into or from the ear canal. The Pompei device is a temperature sensor and is entirely unsuitable for use as an acoustic sensor. The Pompei device provides no acoustic passage and no apertures through which acoustic signals are communicated. Thus, the claims are allowable over Pompei.

Neither Kerouac nor Baum, and hence, not the combination of Kerouac and Baum, disclose or suggest a probe having a length extending from a base of the probe to a probe end, the length being suitable for insertion into the ear canal and a probe tip that is fitted over the length of the tube, i.e., from the probe base to the probe end. As noted above, Baum teaches a stub portion onto which a probe tip is fitted. It is the probe tip that is inserted into the ear canal, not a probe tube and certainly not the probe tube up to the probe base. Kerouac teaches fitting a probe tip (12) at a distal end of a probe tube, not over its entire length from a base of the probe (20) to a probe end (3).

The claimed design is not an insignificant difference or an arbitrary design choice. As discussed, the otoacoustic emission testing that the probe and probe tip, for which the claimed invention are particularly well suited, require careful calibration of the probe. The tip should not interfere with this calibration, but it can interfere with the calibration if it is improperly fitted to the probe tube. By providing the probe tip with a length corresponding to the length of the probe tube, the user is assured the probe tip is properly fitted when it

abuts the base. Neither Kerouac nor Baum teach or suggest that the probe tip should have a length corresponding to the length of the probe tube. Thus, they do not teach, disclose or suggest at least this limitation of the claims and therefore cannot anticipate or render the claims unpatentable. This is also true of the combination. Even if Kerouac and Baum are combined, as suggested, there is no suggestion to modify the probe tip to correspond with the length of the tube. The probe tip of such a combination could be shorter (Kerouac) or longer (Baum) than the probe tube, but not the same as set forth in the claims.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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